Claim 26 is objected to due to an informality.

Claims 1, 2, 5, 6, 10 - 17, 19, 20, 29, 30, and 32 are rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 6,146,970, to Witek et al.

Claims 12 - 17 and 20 are rejected under 35 USC § 102(e) as being anticipated by U.S. Patent No. 6,197,658, to Jang.

Claims 3, 4, 18, and 31 are rejected under 35 USC § 103(a) as being unpatentable over Witek et al., in view of Jang.

Claim 7 is rejected under 35 USC § 103(a) as being unpatentable over Witek et al., in view of U.S. Patent No. 6,355,540, to Wu.

Claims 8 and 9 are rejected under 35 USC § 103(a) as being unpatentable over Witek et al., in view of U.S. Patent No. 6,482,718, to Shiozawa et al.

Claims 21, 22, and 24 are rejected under 35 USC § 103(a) as being unpatentable over Jang, in view of U.S. Patent No. 6,084,257, to Petersen et al.

Claim 23 is rejected under 35 USC § 103(a) as being unpatentable over Jang, in view of Petersen et al., and further in view of U.S. Patent No. 6,338,284, to Najafi et al.

Claims 25 - 28 are objected to as being dependent upon a rejected base claim, but are said to be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Please amend the application as follows:

IN THE CLAIMS:

Please cancel Claim 26 without prejudice. Please amend Claims 1, 3, 7, 8, 12, 16, 21, 25, and 29 as follows.

1. (Once Amended / Currently Amended) A method of forming a silicon oxide layer having a thickness ranging from about 3 μm to about 200 μm in a silicon containing structure, said method comprising:

a) etching a silicon layer to produce a plurality of adjacent trenches separated by a plurality of trench walls, said etched silicon layer including trenches having a nominal trench opening width , and a nominal trench ~~opening~~ height, and ~~separated by~~ trench walls of nominal wall thickness, where said nominal trench opening width is about 2 times said nominal trench wall thickness within said silicon ~~structure~~ layer; and

b) thermally oxidizing said plurality of trench walls within said silicon ~~structure~~ layer, whereby a thermally oxidized silicon oxide layer having a thickness approximately equal to said trench height and a width or length which is greater than the sum of said trench opening widths is produced.

2. (Original) The method according to Claim 1, wherein said nominal thickness of said trench wall is consumed during said thermal oxidation to provide silicon oxide.

3. (Once Amended/Currently Amended) The method according to ~~Claim 2~~ Claim 1 , wherein said ~~nominal trench opening width is about 2 times said nominal wall thickness~~ thermally oxidized silicon oxide layer thickness ranges from about 3 μm to about 200 μm .

4. (Original) The method according to Claim 2, wherein said nominal wall thickness is less than 4μm.

5. (Original) The method according to Claim 1, wherein said trench openings are formed by plasma etching.

6. (Original) The method according to Claim 5, wherein said plasma etching is reactive ion etching.

7. (Once Amended / Currently Amended) The method according to Claim 6, wherein said reactive ion etching is anisotropic etching ~~of~~ using a fluorine-containing etchant component.

8. (Once Amended / Currently Amended) The method according to Claim 6, wherein an aspect ratio of said nominal trench ~~opening~~ height to said trench opening width ranges from about 1 : 1 to about 50 : 1.

9. (Original) The method according to Claim 8, wherein said aspect ratio is less than about 50 : 1.

10. (Original) The method according to Claim 1, wherein said method includes an additional step:

c) selectively removing silicon oxide from at least one exterior surface of said silicon containing structure.

11. (Original) The method according to Claim 7, wherein said etching produces a trench having essentially vertical sidewalls.

12. (Once Amended / Currently Amended) A method of forming an electrically isolating region in a silicon containing structure comprising:

etching a plurality of openings, each opening having a nominal height and separated by a nominal distance in ~~said~~ a silicon-containing ~~structure~~ layer; and

thermally oxidizing said silicon structure , to provide a plurality of thermally oxidized silicon oxide areas extending from an interior of each opening outward through a nominal distance into said silicon layer, where at least a portion of said plurality of silicon oxide areas connect to form a larger silicon oxide area, where a thickness of said silicon oxide area is at least equal to a height of an opening which is part of said plurality of openings, and wherein said height is at least 3 μm.

13. (Original) The method according to Claim 12, wherein said opening extends only partly through a silicon-containing layer in said silicon-containing structure or extends only partly though said silicon-containing structure.

14. (Original) The method according to Claim 12, wherein said opening extends completely though a silicon-containing layer in said silicon-containing structure or extends completely through said silicon-containing structure.

15. (Original) The method according to Claim 14, wherein a portion of said silicon-containing layer or said silicon-containing structure is connected to another portion of said silicon-containing layer or silicon containing structure respectively, by at least one silicon bridge.

16. (Once Amended / Currently Amended) A method of forming a shaped electrically isolated region in a silicon structure comprising:

etching at least one first opening a nominal distance into a first side of said silicon structure;

etching at least one second opening a nominal distance into a second side of said silicon structure ,which second side is directly opposed to said first side of said silicon structure; and

thermally oxidizing said silicon structure , to provide a thermally oxidized silicon oxide layer having a thickness approximately equal to the sum of the first nominal distance and said second nominal distance.

17. (Original) The method according to Claim 16, wherein said first side of said silicon structure is directly opposite to said second side of said silicon structure, and wherein unetched silicon forms a silicon bridge between said first opening and said second opening.

18. (Original) The method according to Claim 17, wherein said silicon bridge between said first opening and said second opening is about 4 μm or less in thickness.

19. (Original) The method according to Claim 16, wherein silicon oxide formed on at least one exterior surface is selectively removed by plasma etching.

20. (Original) The method according to Claim 16, wherein silicon oxide formed on at least one exterior surface is selectively removed by lapping or polishing.

21. (Once Amended / Currently Amended) A method of forming an isolating interconnect through-opening within a multi-layered silicon structure comprising:

a) etching ~~at least one through-opening through a plurality of individual silicon structure layers at a particular location on each silicon structure layer~~ a silicon layer to produce a plurality of adjacent openings which pass completely through said silicon layer, where said openings are separated by a plurality of silicon walls which also pass completely through said silicon layer;

b) thermally oxidizing said silicon ~~structure~~ layer , creating at least one oxidized region ~~at each through opening~~ which replaces said openings, so that said oxidized region passes completely through said silicon layer ;

c) selectively removing silicon oxide from an exterior surface of ~~each~~ said oxidized silicon ~~structure~~ layer to expose underlying silicon where present ~~which is to be bonded to another silicon structure or silicon structure layer~~ ; ~~and~~

d) bonding a plurality of silicon ~~structures~~ layers produced in the manner described in steps a) through c), to provide at least one continuous oxidized region through said bonded multi-layered silicon structure ; and

e) creating a through opening through said continuous oxidized region in a manner such that said oxidized region provides an isolated interconnect through said multi-layered silicon structure.

22. (Original) The method according to Claim 21, wherein said bonding is fusion bonding.

23. (Original) The method according to Claim 21, wherein said bonding is via eutectic processing.

24. (Original) The method according to Claims 21, wherein said multi-layered silicon structure includes stress release elements.

25. (Once Amended / Currently Amended) The method according to Claim 21, including an additional step f) in which oxidized silicon is removed from exterior surfaces of said multi-layered silicon structure subsequent to said bonding.

26. (Cancelled)

27. (Once Amended / Currently Amended) The method according to ~~Claim 26~~ Claim 21, wherein a conductive material is applied over or passed through said through-opening.

28. (Original) The method according to Claim 27, wherein said through-opening is coated with a conductor.

29. (Once Amended / Currently Amended) A method of creating isolation regions in a silicon structure comprising:

etching a plurality of openings through said silicon structure, creating a shaped portion separated by spokes between said plurality of openings; and

thermally oxidizing said silicon structure, wherein said spokes are converted to silicon oxide which at least partially fills said etched openings, whereby said shaped portion of said silicon structure contains silicon oxide regions having a thickness equal to the length of said spokes.

30. (Original) The method according to Claim 29, wherein said openings are completely filled with silicon oxide.

31. (Original) The method according to Claim 30, wherein said spokes exhibit a thickness of about 4 μm or less.

32. (Original) The method according to Claim 29, wherein silicon oxide is removed from at least one exterior surface of said silicon structure.